

94 comprises a restoration selected from the group consisting of a crown, bridge, space maintainer, tooth replacement appliance, orthodontic retainer, denture, post, jacket, inlay, onlay, facing, veneer, facet, implant, abutment, splint, partial crown, teeth, cylinder, pin, connector or combination thereof.

#### REMARKS

Claims 1, 8, and 15 have been amended. No new matter has been added. Support for the addition to claim 1 is found at page 3, lines 7 – 8. Table 1 in the specification has been amended to provide consistency with the originally filed claims. Since support is found in the originally filed claims, no new matter has been added. “It must be kept in mind that an original claim is part of the disclosure and might adequately set forth subject matter which is completely absent from the specification.” *Ex parte Gould*, 6 USPQ2d 1680, 1681 (bd. Pat. App. & Int’f 1987); See also *In re Benno*, 768 F.2d 1340, 1346, 226 USPQ 683, 686-687 (Fed. Cir. 1985); *Twin Disc, Inv. v. United States*, 10 Cl. Ct. 713, 231 USPQ 417, 435 (Cl. Ct. 1986). Accordingly, since the originally filed claims support the changes to the specification, the respective amendments to the specification do not constitute new matter. In view of the foregoing amendments and following remarks, reconsideration of the application is respectfully requested.

Claims 1 – 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Prasad (U.S. Patent No. 4,530,664). It is the Examiner’s opinion that Prasad ‘664 teaches a cobalt based alloy useful in dental applications containing 50 – 70 wt% cobalt, 25 – 35 wt% chromium, 0 – 2 wt% manganese, and other additions which can include from about 1 – 6 wt% aluminum. The Examiner notes that while these ranges do not completely encompass those of the claimed invention, it has been held that where the claimed ranges overlap or lie within the ranges disclosed by the prior art, a prima facie case of obviousness exists. For the reasons set forth below, the rejection is respectfully traversed.

The claimed invention is now directed to a cobalt-chromium dental alloy comprising about 60 to about 85% cobalt, about 15 to about 30% chromium, greater than 2% and up to about 20% manganese, and about 1 to about 15% aluminum, indium, gallium, tin, or germanium, or a mixture thereof. Prasad ‘664 requires 2 wt% or less of

manganese in the composition. The claims, as amended, now require greater than 2 wt% of manganese. The claims are not rendered obvious over the cited reference.

Claims 9 – 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Prasad '664 in view of Chiaramonte (U.S. Patent No. 4,108,642). The Examiner applies Prasad '664 as discussed above. The Examiner cites Chiaramonte '642 to show that 1 – 40 wt% gold may be added to a cobalt-chromium containing dental alloy to give the alloy a gold color, lower melting point and improved mechanical properties. For the reasons set forth below, the rejection is respectfully traversed.

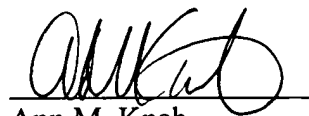
As stated above, Prasad '664 does not render obvious the claimed invention. Chiaramonte '642 does not cure the deficiencies of Prasad '664. Chiaramonte '642 is unlike the claimed invention and is unlike the alloy in Prasad '664. The small amount of gold added to the instant invention, 1 to 5 wt %, does not change the color of the white alloy to a gold color. Accordingly, it would not have been obvious to add gold to Prasad '664 in view of Chiaramonte '642 to achieve the instant invention since one would need to add more than 5 wt% (the maximum amount required in the instant invention) to achieve the gold effects described by Chiaramonte '642, and the claimed invention only requires up to 5 wt %. The claimed invention is not rendered obvious by the cited references.

In summary, none of the references, alone or in combination, teach applicant's invention directed to a cobalt-chromium dental alloy comprising about 60 to about 85% cobalt, about 15 to about 30% chromium, greater than 2% and up to about 20% manganese, and about 1 to about 15% aluminum, indium, gallium, tin, or germanium, or a mixture thereof. None of the references show or suggest applicant's claimed invention and notice to this effect is respectfully requested.

Accordingly, it is believed that claims 1 - 15 specify patentable subject matter and are now in condition for allowance. Applicant therefore respectfully requests favorable reconsideration and allowance of this application. The Examiner is requested to telephone Applicant's attorney at the number listed below if it will advance the prosecution of this case. If necessary, the Examiner is authorized to charge further fees necessary to advance the prosecution in this case from Deposit Account No. 500718.

Respectfully submitted,

Date: August 13, 2002

A handwritten signature in black ink, appearing to read 'Ann M. Knab', written over a horizontal line.

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## VERSION WITH MARKINGS TO SHOW CHANGES MADE

### In the specification:

Table 1 on page 3 was amended as follows:

<u>ELEMENTS</u>	<u>RANGE</u> (WT%)	<u>PREFERRED</u> <u>RANGE</u>
Cobalt	about 60- about 85	about 65- about 80
Chromium	about 15- about 30	about 18- about 25
Manganese	about 2- about 20	about 2- about 10
Iron, Nickel, Palladium, or Platinum, or mixture thereof	<u>up to about</u> <del>1</del> <u>about 20</u>	about 2- about 10
Aluminum, Indium, Gallium, Tin, or Germanium, or mixture thereof	about 1- about 15	about 1- about 7
Gold	<u>0-up to</u> about 10	about 1- about 5
Tantalum, Niobium, Molybdenum, Tungsten, or Vanadium, or mixture thereof	<u>0-up to</u> about 15	<u>0-up to</u> about 5
Iridium, Ruthenium, Rhenium, Titanium, Silicon, or Copper, or mixture thereof	<u>0-up to</u> about 6	about 0.1- about 3
Zirconium, Hafnium, Boron, Yttrium, or rare earths metals, or mixture thereof	<u>0-up to</u> about 5	<u>0-up to</u> about 1

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### In the claims:

Claims 1, 8 and 15 were amended as follows:

1(amended). A cobalt-chromium dental alloy comprising:

about 60 to about 85% cobalt;

about 15 to about 30% chromium;

greater than~~about~~ 2% and up to about 20% manganese; and

about 1 to about 15% aluminum, indium, gallium, tin, or germanium, or mixture thereof.

8(amended). The dental restoration of claim 6 wherein the dental restoration comprises a restoration selected from the group consisting of a crown, bridge, space maintainer, tooth replacement appliance, orthodontic retainer, denture, post, jacket, inlay, onlay, facing, veneer, facet, implant, abutment, splint, partial crown, teeth, cylinder, pin,

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connector or combination thereof.

15(amended). The dental restoration of claim 13 wherein the dental restoration comprises a restoration selected from the group consisting of a crown, bridge, space maintainer, tooth replacement appliance, orthodontic retainer, denture, post, jacket, inlay, onlay, facing, veneer, facet, implant, abutment, splint, partial crown, teeth, cylinder, pin, connector or combination thereof.